automotive
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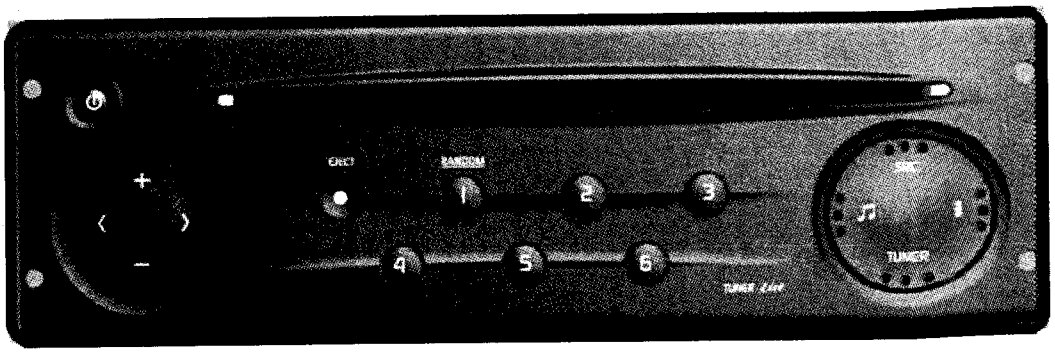
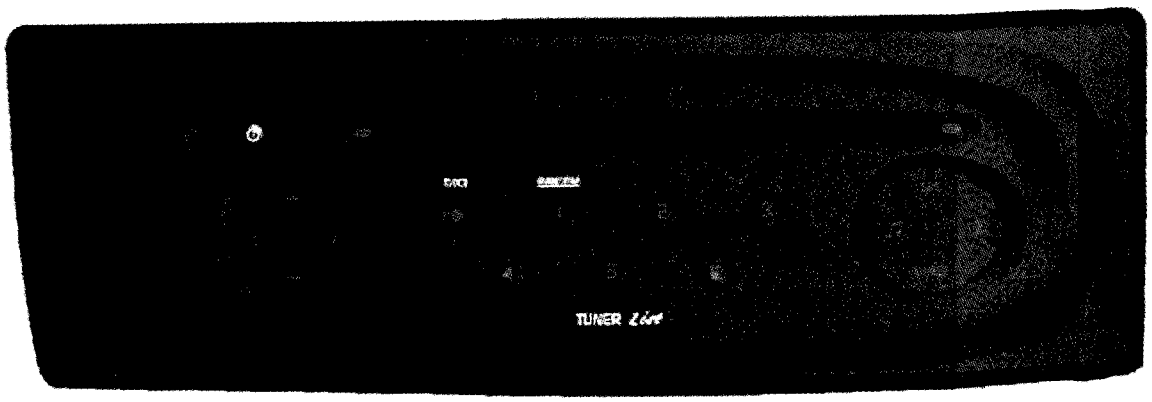
VDO

Service Manual





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CONTROLS

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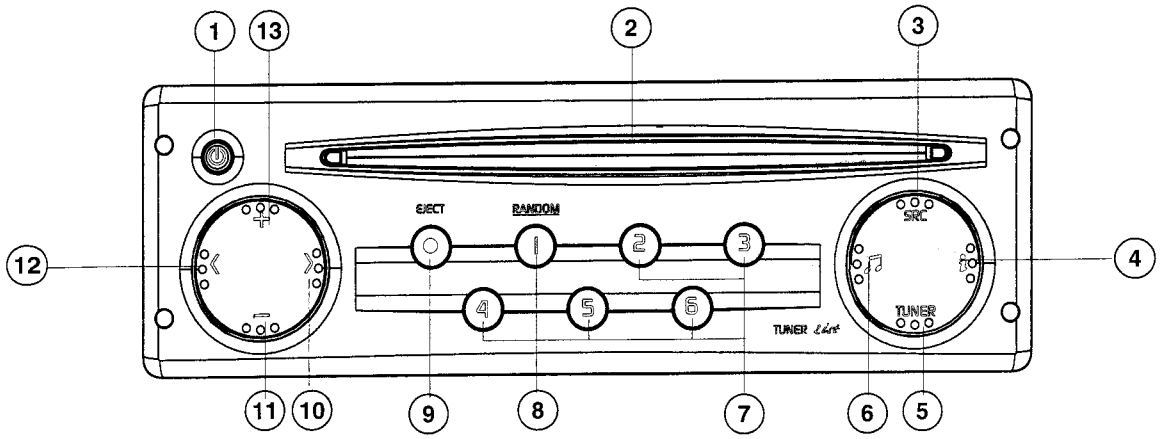
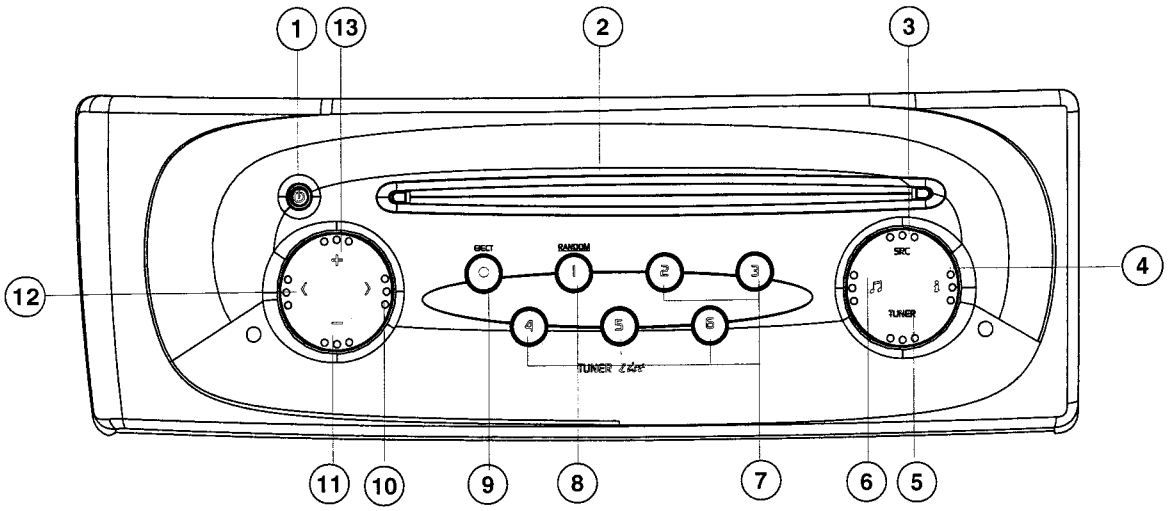


22DC279/62
22DC279/62F
22DC279/62Z

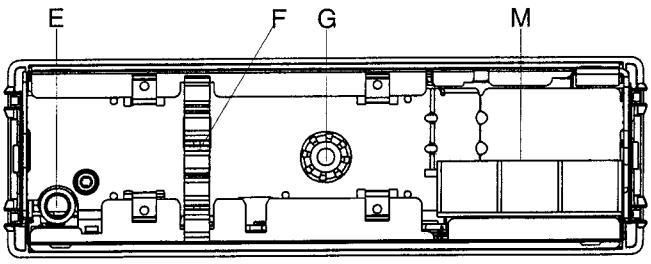


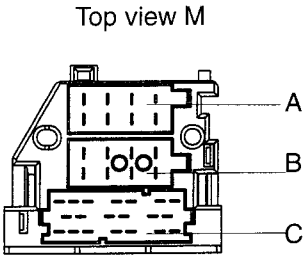
22DC279/62P
22DC279/62R
22DC279/62T

1	ON / OFF
2	DISK OPENING
3	SOURCE
4	INFO
5	TUNER
6	BASS/TREBLE - BAL/FADER
7	PRESET 2,3,4,5,6
8	PRESET 1 / RANDOM
9	EJECT DISK BUTTON
10	SEARCH UP
11	VOL -
12	SEARCH DOWN
13	VOL +

22DC279/62...

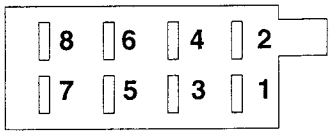
CONNECTIONS





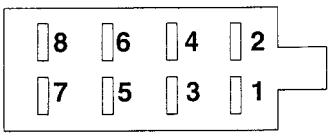
A1	Speed
A2	N.C
A3	Tel mute
A4	Power permanent supply
A5	Remote antenna +
A6	External illumination +
A7	Non power ignition supply
A8	Power ground

A : POWER SUPPLY



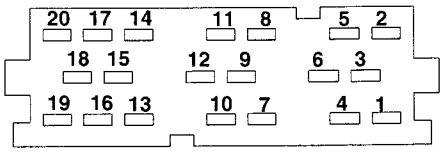
B1	Rear right +
B2	Rear right -
B3	Front right +
B4	Front right -
B5	Front left +
B6	Front left -
B7	Rear left +
B8	Rear left -

B : LOUDSPEAKER SUPPLY



C1-1	Ext SDA	Yellow Connector
C1-2	Ext SCL	
C1-3	Ext MRQ	
C1-4	NC	
C1-5	Radio on	
C1-6	Ground	
C2-7	NC	Green Connector
C2-8	NC	
C2-9	NC	
C2-10	NC	
C2-11	NC	
C2-12	NC	
C3-13	CD UART TXD	Blue Connector
C3-14	CD UART RXD	
C3-15	CD UART Gnd	
C3-16	+ 12v PERMANENT	
C3-17	Remote antenna +	
C3-18	SPDIF input line	
C3-19	SPDIF Gnd	
C3-20	SPDIF Gnd	

C : Line - out GND



C3 : Digital CD changer (UART + SPDIF)

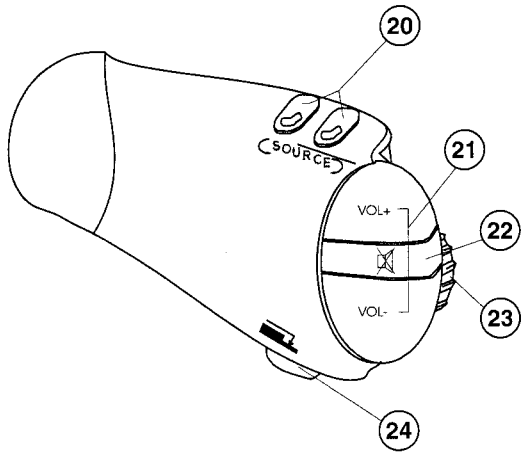
E	Aerial plug
F	Fastening cable

E : AERIAL PLUG SLIDE IN

G : Buffer mounting

22DC279/62...

REMOTE CONTROL



20	Change waveband/source	
21	Vol , Bass, Treble, Balance, Fader + and - when corresponding function activated	
22	In code entry mode: SP : Validation digit Sec Code LP : Validation Sec Code	All others modes: Mute / Demute
23	In code entry mode: Selection digits Sec Code	Changing preset / Track selection
24	In code entry mode: SP : Validation digit Sec Code LP : Validation Sec Code	In radio mode: SP : search UP LP : Starts Autostore

SP : Short press LP : Long press (>2s)

TECHNICAL DATA

GENERAL

Power supply	:from 10.5 to 16V DC
Dimensions	:180x150x51 mm

FEATURES

FM-LW-MW-SW-RDS (EON).

Carequalization function	: yes
Dolby Noise Reduction	: yes
Music Search System	: yes
Remote control	: yes
Remote display	: yes
Security code	: yes
Speed dependant volume	: yes
Telephone mute	: yes

RADIO

LW	: 144-288 KHz
MW	: 531-1629 KHz
FM	: 87.5-108 MHz
Sensivity 26dB S/N	: <40 µV (LW)
	: <30 µV (MW)
	: 1,8 µV (FM)
Limitation α-3dB	: 4,5 µV +/- 3µV

CD

CD mechanism	: CDM-M3/4.4

AMPLIFIER

Output power	: 4x15 W / 4 Ω (THD = 10%)
Fader control	: ≥40 dB
Balance control	: ≥40 dB
Source separation	: ≥60 dB
Input sensivity (CD in)	: 150 mV ± 2 dB

RADIO - EXTRACT OF THE DFU

You are the owner of a Renault World Radio Receiver, a sophisticated multi-band radio enabling you access many frequencies and wave bands from all over the world.
Your radio is factory set for the country of purchase, however if you travel abroad with your vehicle to another continent it is advisable to reste your radio to that continents radio frequency range.
Caution : Before commencing with this sequences it is important to ensure that you have the preset code for your radio.

To select a continent

1. Turn off the set .

2. Press keys 2 and 5 simultaneously, whilst pressing these keys swith on the set.

3. Wait for 2 minutes until prompted to enter the set code.

4. Enter the set code

5. Use the thumbwheel on the satellite to access the desired continent.
   Others
   America
   Japan
   Asia
   Arabia

6. When you have selected the desired continent long press 
Then continue the sequence to select curves (auto equalisation).
The curve sequence is dependent on the type of car, refer to your car manual or dealer for the correct curve number.
Using the thumbwheel select the desired curve.

Curve	0	=OFF
	1	=Emply
	2	=Clio or similar
	3	=Megane or similar
	4	=Laguna or similar
	5	=Safrane or similar

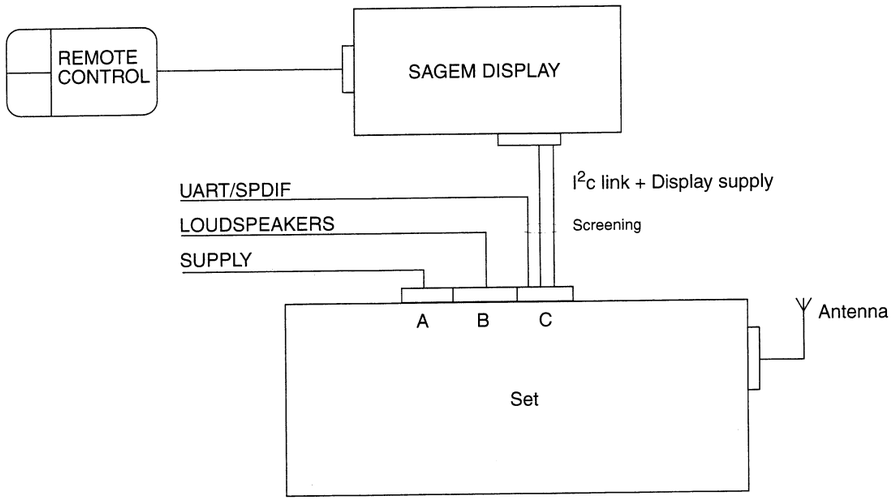
Except if the vehicule manual recommends an other selection.
Long press to leave the mode.
7. Select REAR ON/OFF (loadspeakers).
Press to validate, after this procedure the set will play normally.

22DC279/62X

SPECIAL FONCTIONS

These sets are parts of a system, composed of the following parts:
1)- The set 22DC279/62 or /62F /62P /62R /62T /62Z.
2)- A remote control + cable.
3)- A remote SAGEM display (A1+ display)
4)- A cable link between the set (connector D) and the display.

-IN CASE YOU NEED PARTS OF THIS SYSTEM, PLEASE CONTACT LOCALLY RENAULT TO GET INFO ABOUT THESE PARTS.



This set is protected by a security code. **THE CODE CAN ONLY BE ENTERED VIA THE REMOTE CONTROL.**

Entering the code:
-) Press the On/Off key to switch on the set. 0000 will appear on the display.
-) To select the four digits of the code:
- Adjust the flashing digit with the thumbwheel on the remote control.
- Press the [22] key or 24] key on the remote control to change the digit.

-) Press the [22] key or [24] key for at least 2 seconds to validate the code.
When the code is activated a bleep will be heard.

Example : you want to enter the code 7637

	Turn the thumbwheel Press [22] or [24]	Turn the thumbwheel Press [22] or [24]	Turn the thumbwheel Press [22] or [24]	Turn the thumbwheel Press [22] or [24]	Press [22] or [24] for at least 2 seconds
0000	7000	7600	7630	7637	Last heard frequency

This test can be aborted at any time by switching the set OFF.

2 - Keyboard test

Starting the test: press Pr3 and ON.

"T" is displayed to request keyboard test. For each key pressed, the number of the pressed key appears, according to the table shown below. When all 15 keys have been pressed, "TEST OK" message is displayed.

number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
key	+	>	-	<	MSS RANDOM	Pr 1	Pr 2	Pr 3	Pr 4	Pr 5	Pr 6	SRC		TUNER	

ESD

WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.
Keep components and tools also at this potential.

ESD equipment available:

Anti-static table mat large 1200X650X1.25mm	4822 466 10953
small 600X650X1.25mm	4822 466 10958
Connection box (1Mohm)	4822 395 10223
Extendible cable (to connect wrist band to connection box)	4822 320 11307
Connecting cable (to connect table mat to connection box)	4822 320 11305
Earth cable (to connect any product to mat or box)	4822 320 11308
Complete kit ESD3 (combining all above products)	4822 310 10671
wristband tester	4822 344 13999

CHECKS AND ALIGNEMENTS

For general test instruction, please refer to the manual "

Current and voltage

1) Supply voltages - SET OFF-

SET OFF	Voltage	Total current +Acc ON	Total current +Acc OFF	µP supply pin 30	µP V-LOW pin 64
Acc supply	+12.6V	< 3mA	not relevant	Min 4,8V Max 5,2V	Max 0,8V
Perm Supply	+12.6V	< 2mA	<2 mA		

2) Supply voltage - SET ON-

Reset µP pin 25	5V supply TDH3608TH pin 15		V-LOW µP pin 64		8,5V TDA3608TH pin 4		5V TDA3608TH pin 5		EEPROM supply pin 8	
Max 0,8V	min 4,8V	max 5,2V	min 0,8V	max 5.2V	min 8V	max 9V	min 4,8V	max 5,2V	min 4,8V	max 5,2V

CDSP Digital supply		CDSP analog supply	
min 3.1V	max 3.5V	min 3,1V	max 3,5V

Consumption	FM	CD	FM + 4 x 5 W	FM + 4 x 15 W	FM + 4 x 17 W
DC 259/62	500 mA	700 mA	5.0 A	8.0 A	
DC 259/62L	700 mA	900 mA	5.0 A		10.0 A
Limits	+/- 200 mA	+/- 200 mA	+/- 500 mA	+/- 1 A	+/- 1 A

3) Reference oscillator frequencies

Devices	TMP93PW44DF pin 22 & 23	SAA1305T pin 14 &15	SAA7708
Frequency	14,74 MHz	32,768 Khz	11,289 Mhz
Cristal Accuracy	+/- 30 PPM	+/- 15 %	+/- 60 PPM

Checks:

1) FM

FM mute	98 MHz 1mV	output at load resistor R & L = 775 mV = REF
	no signal	output should be < -24 dB (REF - 24 dB)

Limiting point α-3dB	RANGE	INPUT	NOMINAL	MIN	MAX
	98 Mhz	1Khz	5 µV	3 µV	8 µV

Search levels Input 98 MHz	Min : 10 µV	Nom : 18 µV	Max : 25 µV

2) AM

Sensivity at 26dB	162 khz	m = 30 %	1 khz	< 38 µV
S+N / N	1053 khz			< 30 µV

No alignment is needed for radio part. The tuner module is pre-aligned in the factory.
Dolby alignment, crosstalk alignment and FM DC level curve learning procedure are performed via a special equipment and software, not yet available in Service.
Some values are stored in the EEprom.
The EEprom available in service will contain mean values, that could affect slightly the performance of the set. It is the only solution until further notice.
Consequence: If you change the tuner module, change also the EEprom.

3) CD part

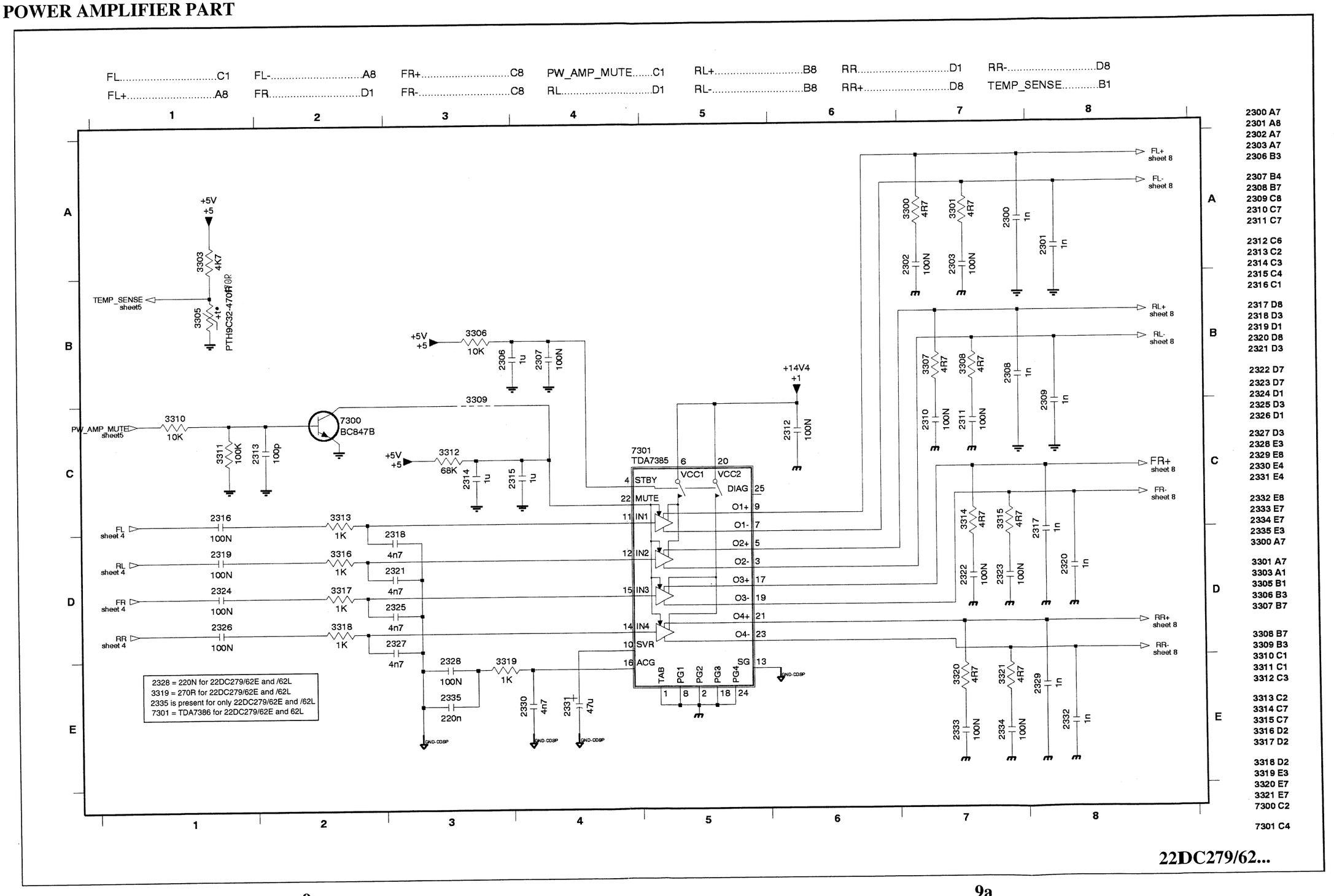
Test CD	Test	Result
Eccent-music 150um 4822 397 30279	Insert disk and play track 01	No failure
Vertical deviation 4822 397 30282	Check loading, display of number of tracks and total time. Select track no 9 time 00.20 listen to the disk during 4 seconds	No electrical or mechanical noise
Sub chassis VII A 7104 099 28350	Check loading, display of number of track and total time listen to track 01 diring 5 seconds. Track 02 check left and right channel. Track 8 time 00.20 listen to disk during 10 seconds.	Good sound quality and no noise. No failure. Good quality, no jump and no noise.
Commercial 8 cm CD	Check playability.	No failure.

Test CD	Test : CROSS-TALK		Result
Audio signal disk 1 4822 397 30184	Compression Off	Crosstalk track 67 and 71	Crosstalk < -65dB
	Compression On		Crosstalk < -60dB (comp 1 by default)
Test CD	Test: TOTAL HARMONIC DISTORTION		Result
20Khz filter 7104 087 04981	Compression Off	track 67 and 71	Distortion < 0.3 %
	Compression On		Distortion < 10%

Signal to noise ratio

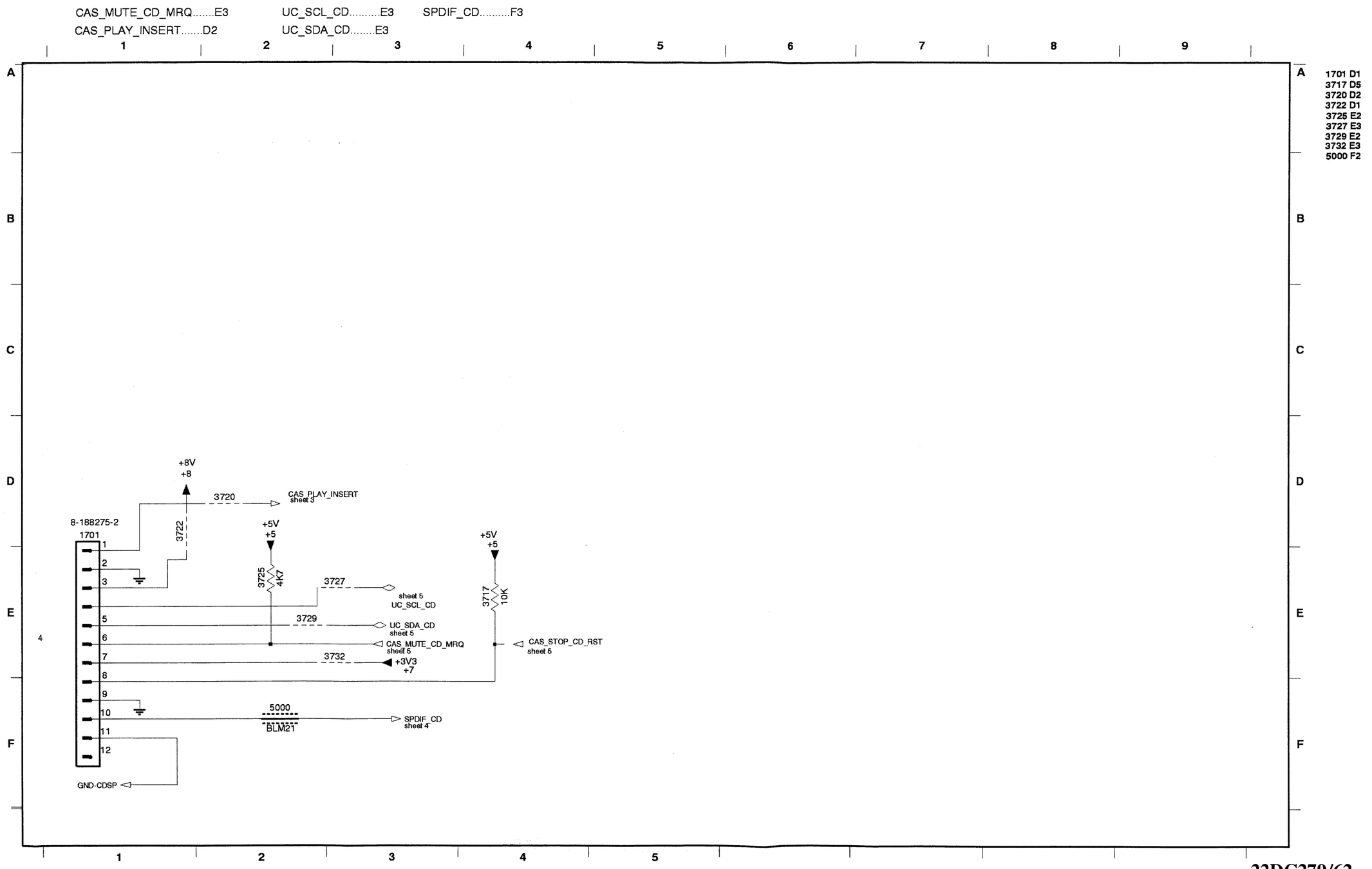
A weighted filter, track 1 versus track 49 of disk 1	
Compression Off	S / N > 80dB
Compression On (default 1)	S / N > 70dB

POWER AMPLIFIER PART

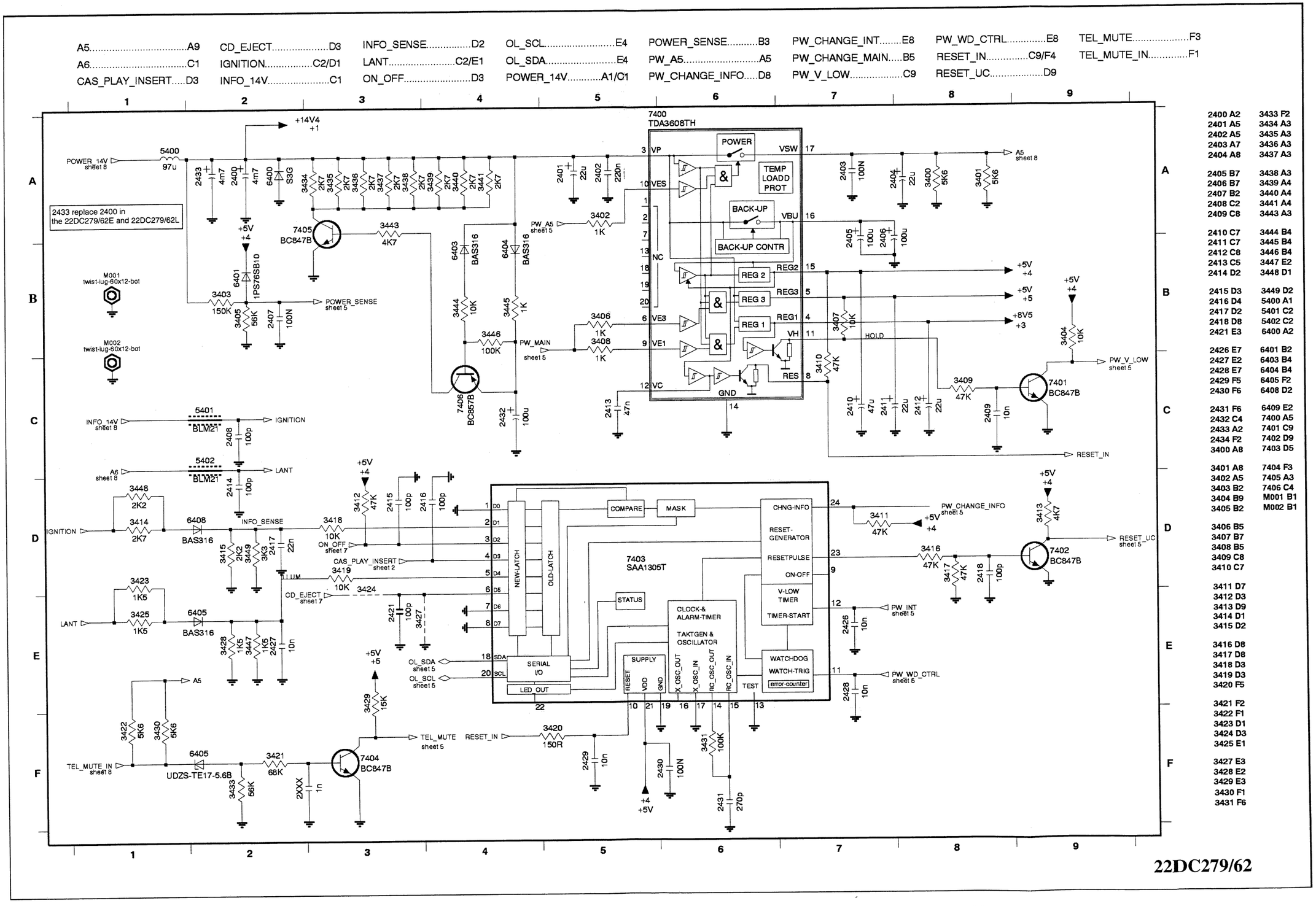


22DC279/62...

CD PART

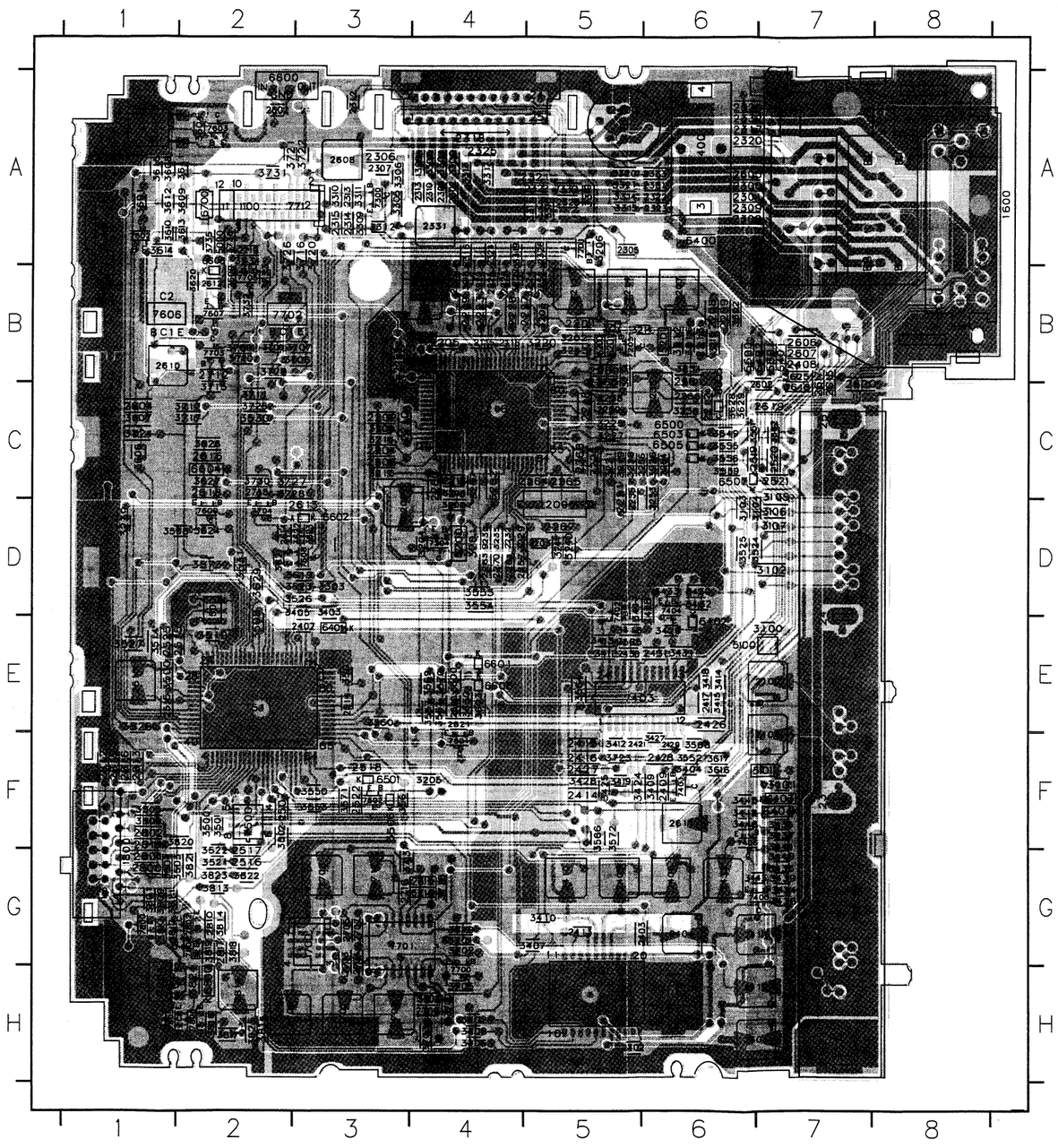

CAS_MUTE_CD_MRQ.....E3
CAS_PLAY_INSERT.....D2
UC_SCL_CD.....E3
UC_SDA_CD.....E3
SPDIF_CD.....F3
1 2 3 4 5 6 7 8 9
A B C D E F
1701 D1
3717 D5
3720 D2
3722 D1
3725 E2
3727 E3
3729 E2
3732 E3
5000 F2
+8V
+8
3720
CAS_PLAY_INSERT
sheet 3
8-188275-2
1701
3722
+5V
+5
3725
4K7
3727
sheet 5
UC_SCL_CD
+5V
+5
3717
10K
3729
UC_SDA_CD
sheet 5
CAS_MUTE_CD_MRQ
sheet 5
CAS_STOP_CD_RST
sheet 5
3732
+3V3
+7
5000
BLM21
SPDIF_CD
sheet 4
GND-CDSP
1 2 3 4 5
22DC279/62...

POWER SUPPLY PART



22DC279/62

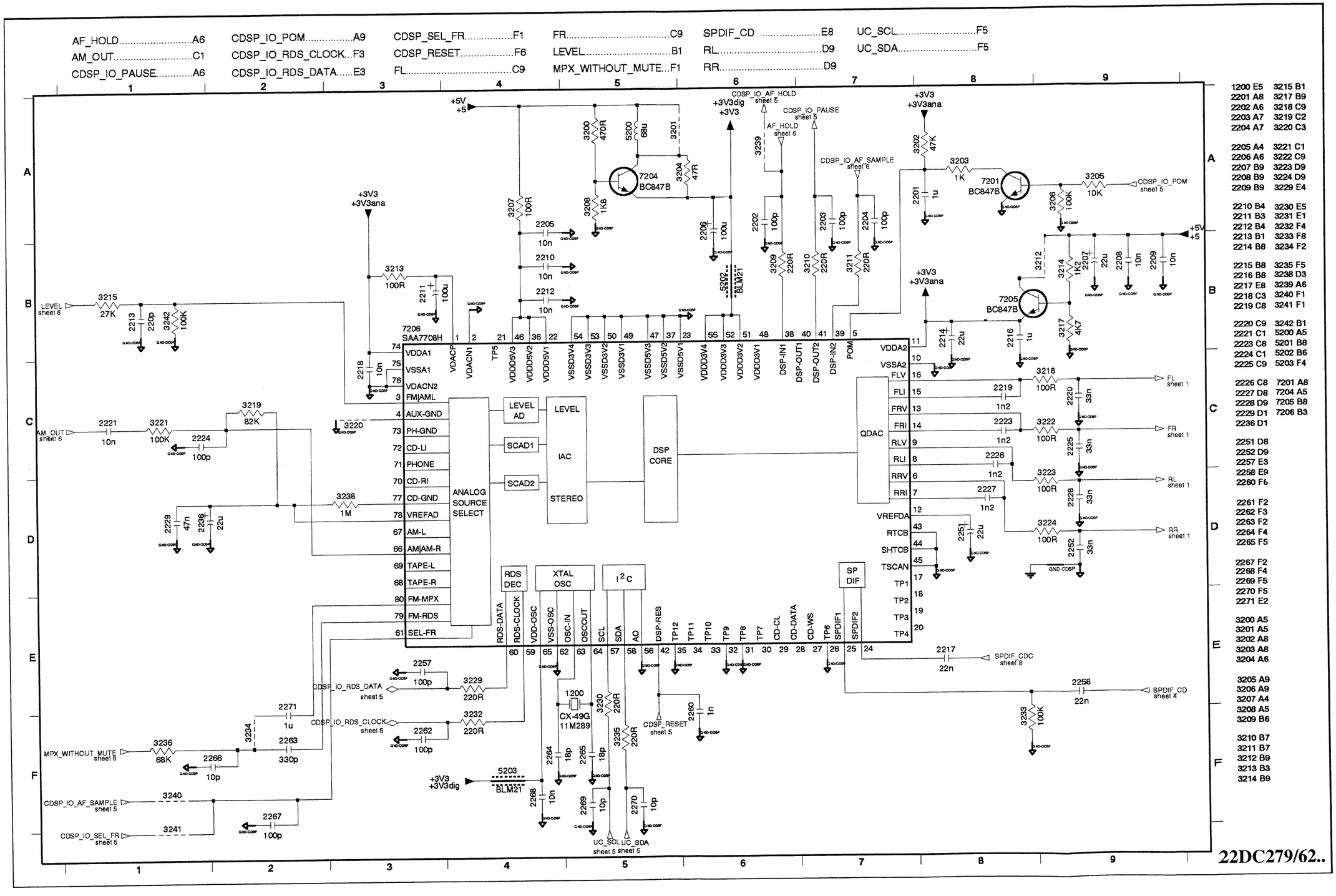
VIEW_COMPONENTS. SIDE B



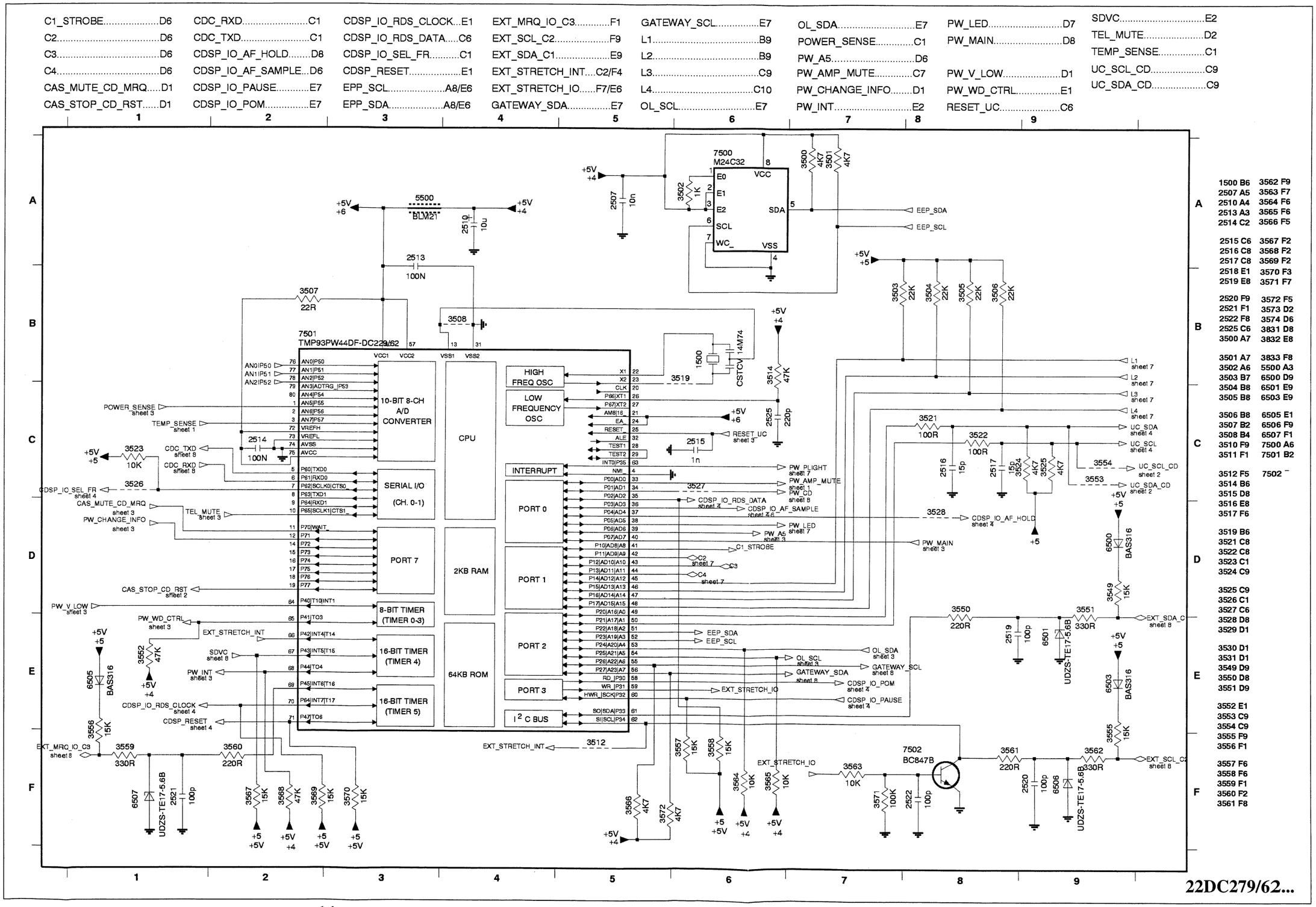
1200	D5	2417	E6	3227	C5	3558	D2	5201	B6						
1500	D2	2418	D6	3228	C5	3559	C6	5202	C4						
1700	G3	2419	B6	3229	D4	3560	E3	5203	D5						
1701	A2	2421	F6	3230	D4	3561	F3	5401	B7						
1702	A2	2426	E6	3231	B6	3562	C7	5402	B7						
2100	E7	2427	F5	3232	D4	3563	F3	5403	B5						
2101	F7	2428	F6	3233	B5	3564	E5	5500	E1						
2201	B5	2429	F6	3234	B5	3565	E5	5600	B6						
2202	C3	2430	E5	3235	D4	3566	F5	5601	B7						
2203	C3	2431	E6	3236	C6	3567	E4	6200	B5						
2204	C3	2432	C6	3238	C5	3568	F6	6201	B5						
2205	B4	2507	F2	3239	D1	3569	E4	6400	A6						
2206	D3	2510	E1	3240	D5	3570	E4	6401	E3						
2207	B6	2513	E1	3241	D5	3571	F3	6402	E6						
2208	B6	2514	E3	3300	A4	3572	F5	6403	F7						
2209	B6	2515	E2	3301	A4	3573	D2	6404	F7						
2210	C3	2516	G2	3302	B6	3600	E4	6500	C6						
2211	B5	2517	G2	3303	D3	3601	A1	6501	F3						
2212	C4	2518	F3	3305	A3	3603	E4	6503	C6						
2213	B6	2519	C6	3306	A3	3604	A2	6505	C6						
2214	B5	2520	C7	3307	A4	3606	C1	6506	F3						
2215	B4	2521	C7	3308	A4	3607	C1	6507	C7						
2216	B4	2522	F3	3309	A3	3608	A1	6601	E4						
2217	C6	2525	C5	3310	A3	3609	A2	6602	D3						
2218	C5	2600	E4	3311	A3	3610	A1	6603	B2						
2219	B4	2601	A2	3312	A3	3611	A2	6604	C2						
2220	B4	2602	C7	3313	A4	3612	A1	6605	C6						
2221	C5	2604	C1	3314	A5	3613	A2	6606	E4						
2223	B4	2605	A6	3315	A5	3614	A1	6700	A2						
2224	C5	2606	B7	3316	A5	3615	A1	6800	H2						
2225	B4	2607	B7	3317	A4	3616	F6	7201	A5						
2226	B4	2608	A3	3318	A5	3617	F6	7204	D4						
2227	B5	2609	B2	3319	A5	3618	C7	7205	B5						
2228	B4	2610	B1	3320	A5	3619	D3	7206	C4						
2229	C5	2611	F6	3321	A5	3620	B2	7300	A3						
2236	C6	2612	B2	3402	H4	3621	D2	7400	H5						
2251	B4	2613	D3	3403	D3	3622	D3	7401	F6						
2252	B5	2614	D2	3404	F6	3623	D3	7402	D5						
2253	C6	2615	B7	3405	D3	3624	D2	7403	E5						
2254	C6	2616	C2	3406	H4	3625	B7	7404	D6						
2255	C5	2617	B7	3407	G5	3626	C2	7405	G7						
2256	C6	2618	C2	3408	H4	3627	C2	7406	F6						
2257	D4	2619	C7	3409	F6	3628	C6	7500	F2						
2258	B3	2620	C7	3410	G5	3629	C6	7501	E2						
2260	C4	2621	E4	3411	E5	3630	E4	7502	F3						
2261	B6	2700	H4	3412	F5	3700	H4	7600	A1						
2262	D4	2701	H3	3413	E5	3701	G4	7601	F4						
2263	B5	2702	H3	3414	E6	3702	G4	7602	A1						
2264	C5	2703	G3	3415	E6	3703	H4	7603	A2						
2265	C5	2704	G3	3416	E5	3704	H4	7606	B1						
2266	C6	2705	G3	3417	D5	3705	H4	7607	B2						
2267	D5	2706	H2	3418	E6	3706	B3	7608	D3						
2268	C5	2707	G3	3419	F5	3707	B3	7609	D2						
2269	D4	2708	G3	3424	F5	3708	B2	7700	H4						
2270	D4	2712	B2	3425	F5	3709	B2	7701	G3						
2300	A6	2715	G4	3427	F6	3710	B2	7702	B2						
2301	A6	2716	G3	3428	E5	3711	C2	7703	B2						
2302	A4	2717	G3	3429	E6	3712	C2	7704	D2						
2303	A4	2718	C2	3430	D6	3713	G3	7705	B2						
2305	A5	2719	A2	3431	E6	3714	G4	7800	G1						
2306	A3	2800	G1	3432	D6	3715	C2	7802	G2						
2307	A3	2801	G1	3433	D6	3716	A3	7804	H1						
2308	A6	2802	F1	3434	G7	3717	C2	7805	H1						
2309	A6	2810	G2	3435	G7	3718	G4	7806	H2						
2310	A4	2811	F1	3436	F7	3719	G4	7807	G2						
2311	A4	2812	F1	3437	F7	3720	A3								
2312	A3	2813	F1	3438	G7	3721	A2								
2313	A3	2814	H2	3439	G7	3722	A3								
2314	A3	2815	F1	3440	G7	3723	F5								
2315	A3	2816	F1	3441	F7	3724	C1								
2316	A4	2817	G2	3443	G7	3725	C2								
2317	A6	3100	E7	3444	F6	3726	A2								
2318	A4	3101	F7	3445	F6	3727	C2								
2319	A4	3102	D7	3446	F6	3728	C2								
2320	A6	3103	D6	3500	F2	3729	B2								
2321	A5	3104	D6	3501	F2	3730	C2								
2322	A6	3105	C7	3502	F2	3731	A2								
2323	A6	3106	D7	3503	G1	3732	B2								
2324	A4	3107	D7	3504	G1	3733	B2								
2325	A4	3200	D4	3505	F1	3734	A2								
2326	A5	3201	D4	3506	F1	3735	A2								
2327	A5	3202	B5	3507	E3	3736	A2								
2328	A5	3203	B5	3508	E2	3801	G1								
2329	A6	3204	D4	3514	F1	3809	G1								
2330	A5	3205	F4	3519	E2	3810	G1								
2331	A4	3206	A5	3521	G2	3811	G1								
2332	A6	3207	C4	3522	G2	3812	G1								
2333	A6	3208	C4	3523	D3	3813	G2								
2334	A6	3209	C3	3524	D6	3814	G2								
2401	H7	3210	C3	3525	D6	3815	H2								
2402	H5	3211	C3	3526	D3	3816	H2								
2403	G6	3212	B6	3527	E1	3817	H2								
2404	G6	3213	B5	3528	E1	3818	G2								
2405	G5	3214	B6	3529	D2	3819	G2								
2406	G6	3215	B6	3530	C2	3820	F2								
2407	E3	3217	B5	3531	D2	3821	G2								
2408	B7	3218	B4	3549	C6	3822	G2								
2409	F6	3219	C5	3550	F3	3823	G2								
2410	G5	3220	B5	3551	C6	3824	H2								
2411	G7	3221	C5	3552	F6	3825	H2								
2412	H7	3222	B4	3553	D4	5000	A2								
2413	G5	3223	B4	3554	D4	5100	E7								
2414	F5	3224	B5	3555	C6	5101	F7								
2415	F5	3225	C5	3556	C6	5102	D7								
2416	F5	3226	C6	3557	E4	5200	D4								

22DC279/62...

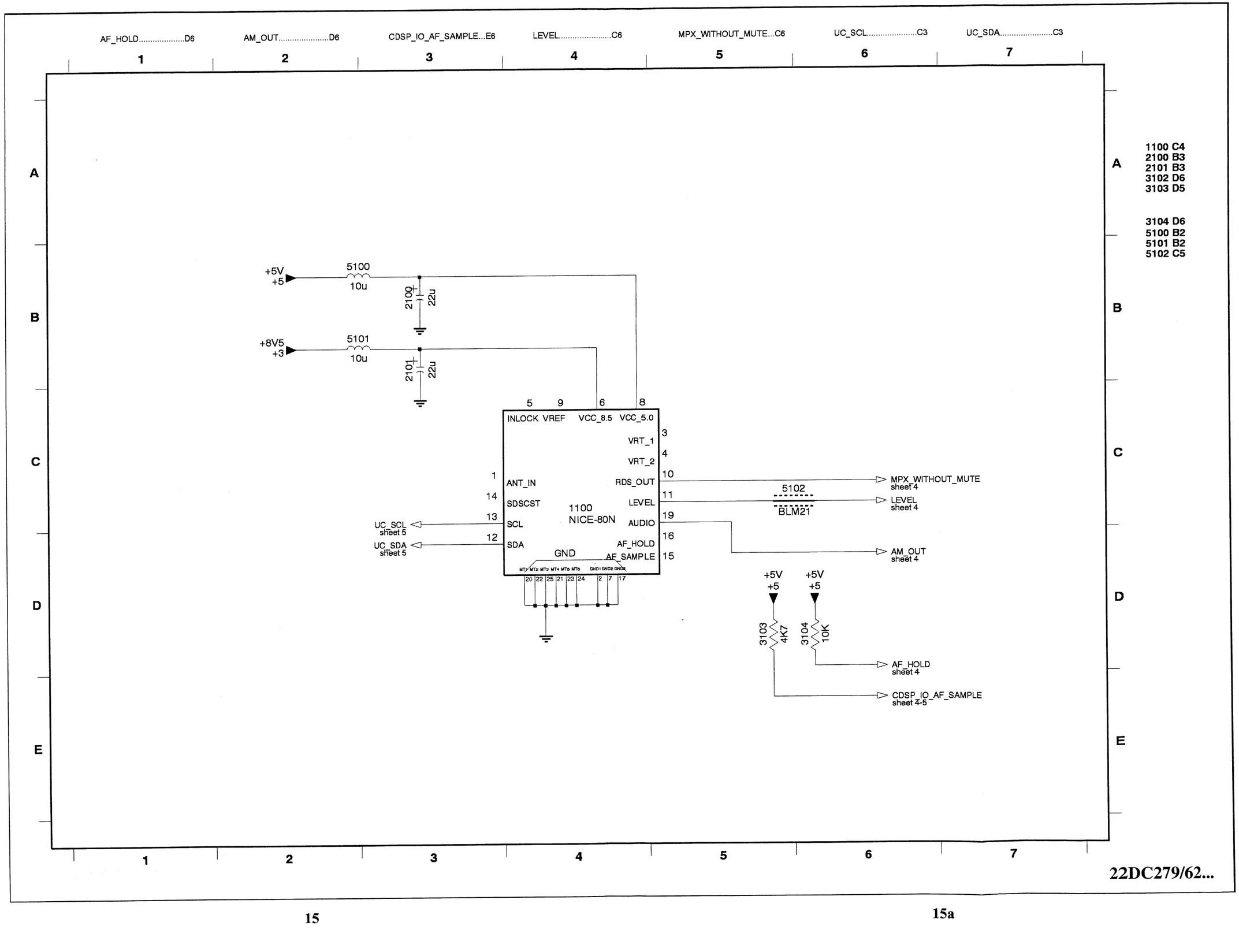
SOUND PROCESS PART



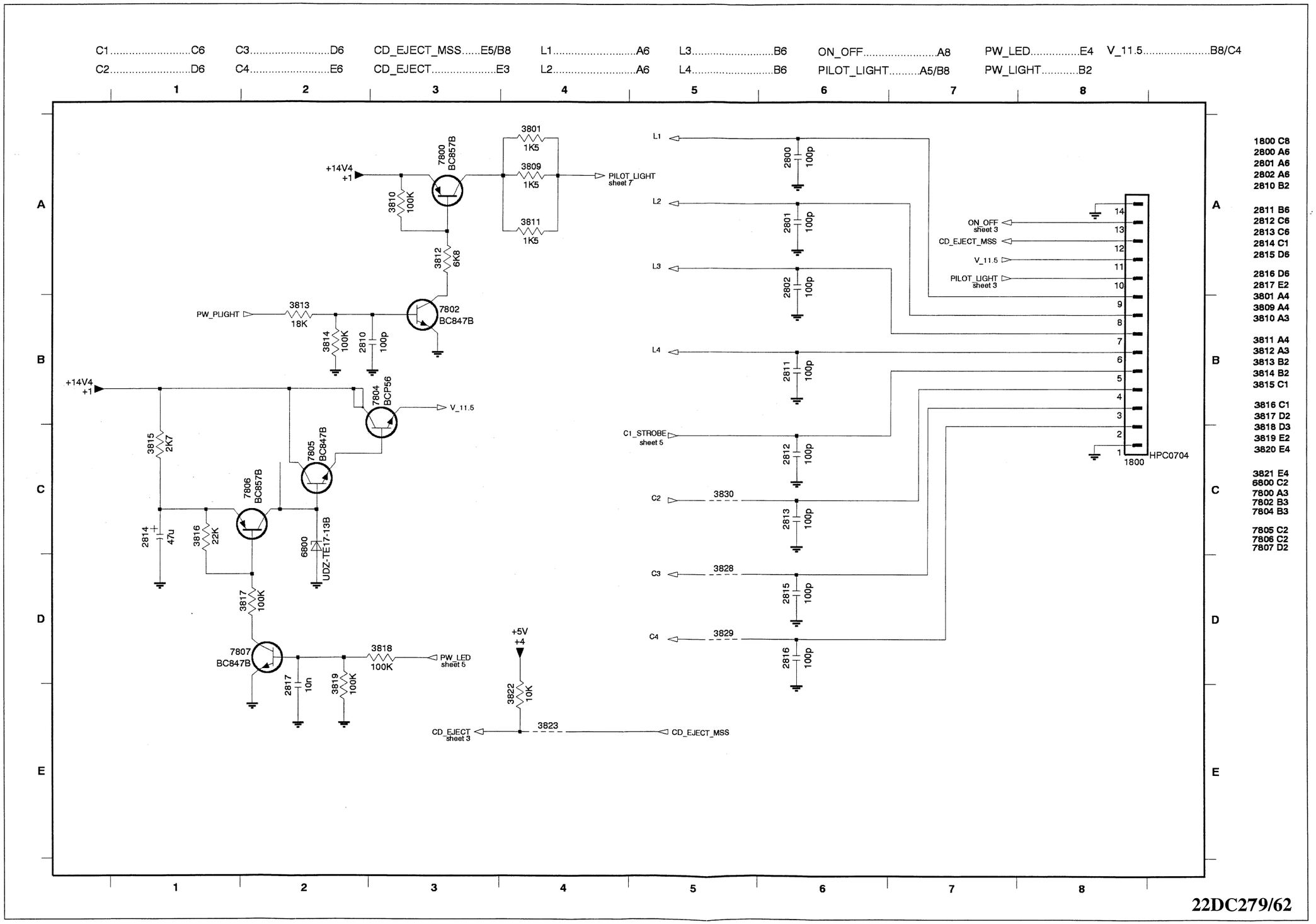
MICROCONTROLER PART



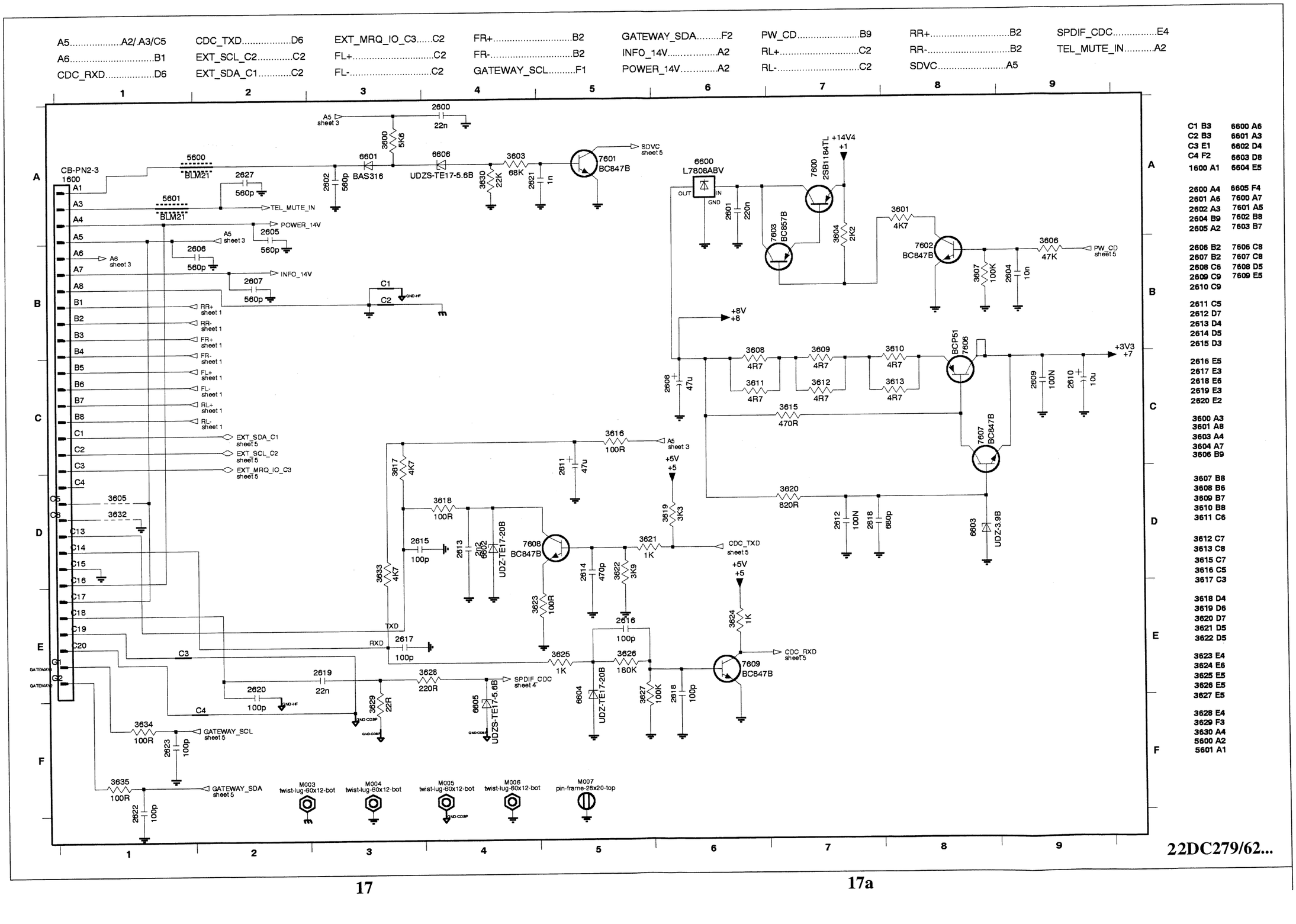
TUNER PART


AF_HOLD.....D6
AM_OUT.....D6
CDSP_IO_AF_SAMPLE...E6
LEVEL.....C6
MPX_WITHOUT_MUTE...C6
UC_SCL.....C3
UC_SDA.....C3
1100 C4
2100 B3
2101 B3
3102 D6
3103 D5
3104 D6
5100 B2
5101 B2
5102 C5
+5V
+5
5100
10u
2100
22u
+8V5
+3
5101
10u
2101
22u
INLOCK
VREF
VCC_8.5
VCC_5.0
VRT_1
VRT_2
ANT_IN
SDSCST
SCL
SDA
RDS_OUT
LEVEL
AUDIO
AF_HOLD
AF_SAMPLE
GND
1100
NICE-80N
UC_SCL
sheet 5
UC_SDA
sheet 5
MPX_WITHOUT_MUTE
sheet 4
5102
BLM21
LEVEL
sheet 4
AM_OUT
sheet 4
3103
4K7
3104
10K
AF_HOLD
sheet 4
CDSP_IO_AF_SAMPLE
sheet 4-5
22DC279/62...

CONNECTION TO FRONT



CONNECTOR BLOCK



C1 B3 6600 A6
C2 B3 6601 A3
C3 E1 6602 D4
C4 F2 6603 D8
1600 A1 6604 E5

2600 A4 6605 F4
2601 A6 7600 A7
2602 A3 7601 A5
2604 B9 7602 B8
2605 A2 7603 B7

2606 B2 7606 C8
2607 B2 7607 C8
2608 C6 7608 D5
2609 C9 7609 E5
2610 C9

2611 C5
2612 D7
2613 D4
2614 D5
2615 D3

2616 E5
2617 E3
2618 E6
2619 E3
2620 E2

3600 A3
3601 A8
3603 A4
3604 A7
3606 B9

3607 B8
3608 B6
3609 B7
3610 B8
3611 C6

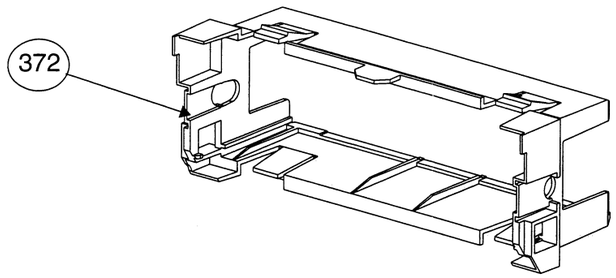
3612 C7
3613 C8
3615 C7
3616 C5
3617 C3

3618 D4
3619 D6
3620 D7
3621 D5
3622 D5

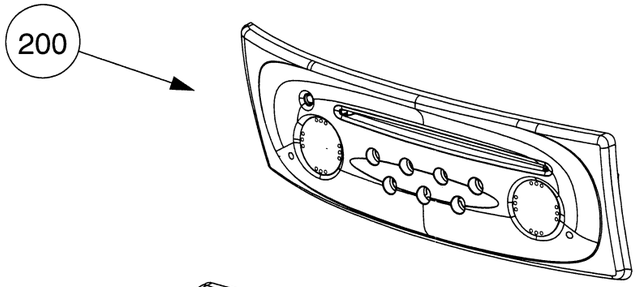
3623 E4
3624 E6
3625 E5
3626 E5
3627 E5

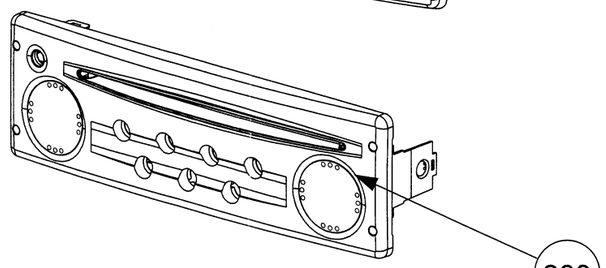
3628 E4
3629 F3
3630 A4
5600 A2
5601 A1

22DC279/62 22DC279/62R
22DC279/62F 22DC279/62T
22DC279/62P 22DC279/62Z



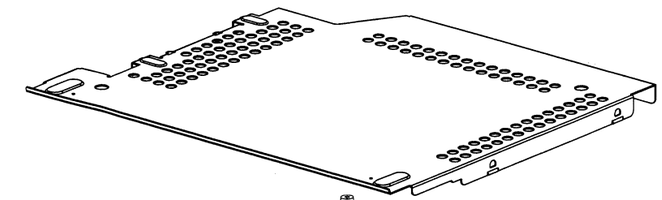
22DC279/62P
22DC279/62R
22DC279/62T

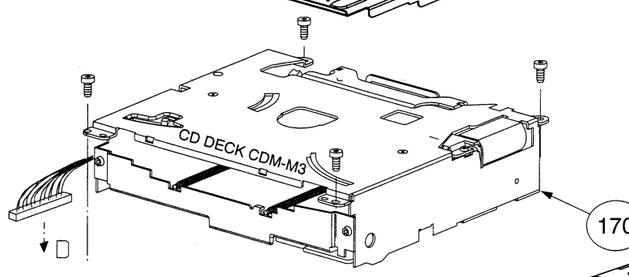


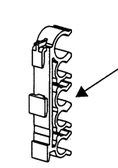


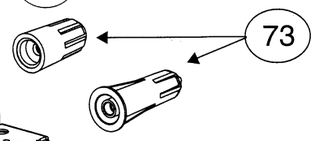
22DC279/62
22DC279/62E
22DC279/62F
22DC279/62L
22DC279/62Z

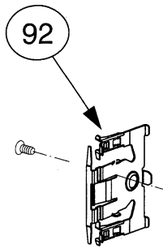
ITEM	SERVICE CODE	DESCRIPTION	DC279/62	DC279/62E	DC279/62F	DC279/62L	DC279/62P	DC279/62R	DC279/62T	DC279/62W	DC279/62Z
73	3111 114 48390	BUFFER MOUNTING	1	1	1	1		1		1	
	3111 114 67400	BUFFER MOUNTING					1		1		1
92	3111 111 07140	SPRING MOUNTING	2	2	2	2	2	2	2	2	2
150	3112 358 69641	CD DECK CDM-M3/4.4	1	1	1	1	1	1	1	1	1
200	3111 118 76180	ORNAMENTAL PLATE ASSY	1							1	
	3111 118 77100	ORNAMENTAL PLATE ASSY		1							
	3111 118 76610	ORNAMENTAL PLATE ASSY			1						
	3111 118 76790	ORNAMENTAL PLATE ASSY				1					
	3111 118 76330	ORNAMENTAL PLATE ASSY					1				
	3111 118 76170	ORNAMENTAL PLATE ASSY						1			
	3111 118 76340	ORNAMENTAL PLATE ASSY							1		
	3111 118 76800	ORNAMENTAL PLATE ASSY									1
205	3111 118 76160	DECK BUTTON ASSY	1			1					
	3111 118 76310	DECK BUTTON ASSY			1						
	3111 118 76320	DECK BUTTON ASSY		1			1				
	3111 118 76820	DECK BUTTON ASSY						1			
356	3111 114 69273	FASTENING CABLE	1	1	1	1	1	1			
372	3111 114 68970	SLEEVE					1	1	1		

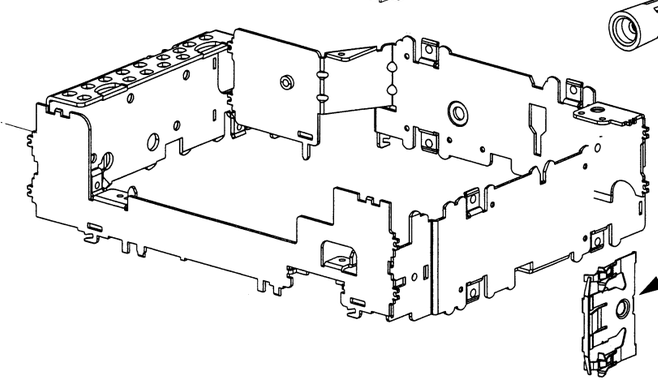


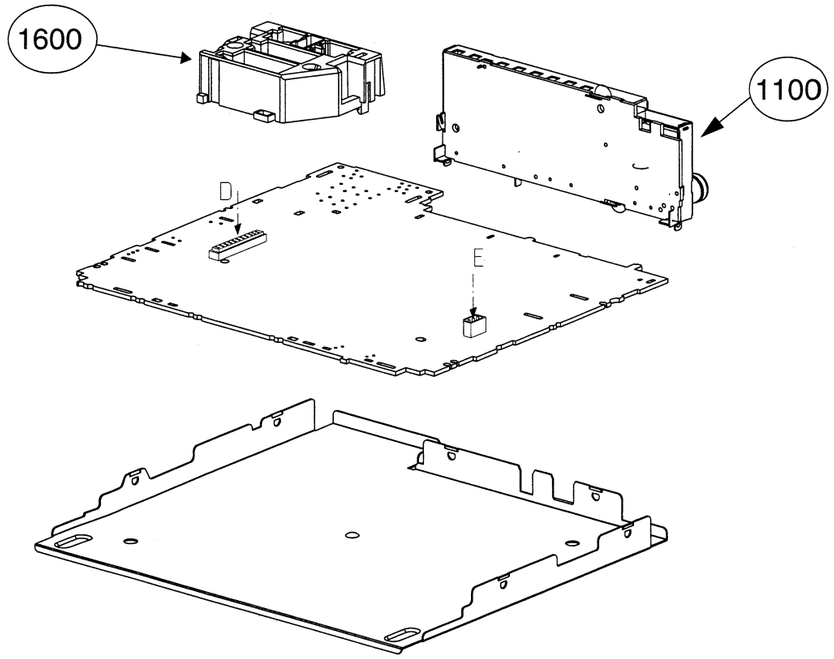












Miscellaneous					
375	3111 115 33980	DIRECTION FOR USE	1500	2422 540 98436	RES CER SM 14M74
1100	3111 117 13180	TUNER NICE 80N	1600	3111 117 13190	CONNECTOR BLOCK
1200	2422 543 01057	RES XTL SM 11M289			
⊣⊢					
2100	2020 024 90556	22µF 20% 25V	2311	4822 126 14585	100nF 10% X7R 0805 50V
2101	2020 024 90556	22µF 20% 25V	2312	4822 126 14585	100nF 10% X7R 0805 50V
2201	4822 126 14043	1µF +80-20% Y5V 16V	2313	5322 122 32531	100pF 5%NP0 50V
2202	5322 122 32531	100pF 5% NP0 50V	2314	4822 126 14043	1µF +80-20% Y5V 16V
2203	5322 122 32531	100pF 5% NP0 50V	2316	4822 126 14585	100nF 10% X7R 0805 50V
2204	5322 122 32531	100pF 5% NP0 50V	2317	2222 580 15623	1nF 10% X7R 50V 0805
2205	5322 122 34098	10nF10% X7R 63V	2318	5322 126 10223	4,7nF10%X7R 63V
2206	2020 024 90627	100µF 20% 16V	2319	4822 126 14585	100nF 10% X7R 0805 50V
2207	2020 024 90556	22µF 20% 25V	2320	2222 580 15623	1nF 10% X7R 50V 0805
2208	5322 122 34098	10nF 10% X7R 63V	2321	5322 126 10223	4,7nF10%X7R 63V
2209	5322 122 34098	10nF 10% X7R 63V	2322	4822 126 14585	100nF 10% X7R 0805 50V
2210	5322 122 34098	10nF 10% X7R 63V	2323	4822 126 14585	100nF 10% X7R 0805 50V
2211	2020 024 90627	100µF 20% 16V	2324	4822 126 14585	100nF 10% X7R 0805 50V
2212	5322 122 34098	10nF 10% X7R 63V	2325	5322 126 10223	4,7nF10%X7R 63V
2213	4822 122 33575	220pF 5% NP0 63V	2326	4822 126 14585	100nF 10% X7R 0805 50V
2214	2020 024 90556	22µF 20% 25V	2327	5322 126 10223	4,7nF10%X7R 63V
2216	4822 126 14043	1µF +80-20% Y5V 16V	2328	4822 126 14585	100nF 50V-> 62/F/P/R/T/Z
2217	5322 122 32654	22nF 0805 X7R 63V 10%	2328	2222 780 15654	220nf 16V -> /62E and /62L
2218	5322 122 34098	10nF10%X7R 63V	2329	2222 580 15623	1nF 10% X7R 50V 0805
2219	2222 580 15624	1N2 0805 X7R 50V 10%	2330	5322 126 10223	4,7nF10%X7R 63V
2220	4822 126 12105	33nF 0805 X7R 50V PM5	2331	4822 124 41842	47µF
2221	5322 122 34098	10nF10%X7R 63V	2332	2222 580 15623	1nF 10% X7R 50V 0805
2223	2222 580 15624	1N2 0805 X7R 50V 10%	2333	4822 126 14585	100nF 10% X7R 0805 50V
2224	5322 122 32531	100pF 5%NP0 50V	2334	4822 126 14585	100nF 10% X7R 0805 50V
2225	4822 126 12105	33nF 0805 X7R 50V PM5	2335	2222 78015654	220nF 16V-> /62E and /62L
2226	2222 580 15624	1N20805 X7R 50V 10%	2400	4822 124 12437	4700µF 20% 16V
2227	2222 580 15624	1N2 0805 X7R 50V 10%	2401	2020 024 90556	22µF 20% 25V
2228	4822 126 12105	33nF 0805 X7R 50V PM5	2402	2222 780 15654	220nF 10% X7R 16V 0805
2229	2222 910 15645	47nFN 0805 X7R 25V 10%	2403	4822 126 14585	100nF 10% X7R 0805 50V
2236	2020 024 90556	22µF 20% 25V	2404	2020 024 90556	22µF 20% 25V
2251	2020 024 90556	22µF 20% 25V	2405	2020 024 90627	100µF 20% 16V
2252	4822 126 12105	33nF 0805 X7R 50V PM5	2406	2020 024 90627	100µF 20% 16V
2257	5322 122 32531	100pF 5%NP0 50V	2407	4822 126 14585	100nF 10% X7R 0805 50V
2258	5322 122 32654	22N 0805 X7R 63V 10% R	2408	5322 122 32531	100pF 5%NP0 50V
2259	4822 126 14043	1µF +80-20% Y5V 16V	2409	5322 122 34098	10nF10%X7R 63V
2260	2222 580 15623	1nF 10% X7R 50V 0805	2410	4822 124 41842	47µF
2262	5322 122 32531	100pF 5%NP0 50V	2411	2020 024 90556	22µF 20% 25V
2263	5322 122 31863	330pF 0805 NP0 63V PM5	2412	2020 024 90556	22µF 20% 25V
2264	4822 126 13689	18pF 1% NP0 63V	2413	2222 910 15645	47NF 0805 X7R 25V 10%
2265	4822 126 13689	18pF 1% NP0 63V	2414	5322 122 32531	100pF 5%NP0 50V
2266	5322 122 32448	10pF 5% NP0 63V	2415	5322 122 32531	100pF 5%NP0 50V
2267	5322 122 32531	100pF 5%NP0 50V	2416	5322 122 32531	100pF 5%NP0 50V
2268	5322 122 34098	10nF10%X7R 63V	2417	4822 126 14043	1µF +80-20% Y5V 16V
2269	5322 122 32448	10pF 5% NP0 63V	2418	5322 122 32531	100pF 5%NP0 50V
2270	5322 122 32448	10pF 5% NP0 63V	2421	5322 122 32531	100pF 5%NP0 50V
2300	2222 580 15623	1nF 10% X7R 50V 0805	2426	5322 122 34098	10nF10%X7R 63V
2301	2222 580 15623	1nF 10% X7R 50V 0805	2427	5322 122 34098	10nF10%X7R 63V
2302	4822 126 14585	100nF 10% X7R 0805 50V	2428	5322 122 34098	10nF10%X7R 63V
2303	4822 126 14585	100nF 10% X7R 0805 50V	2429	5322 122 34098	10nF10%X7R 63V
2305	4822 126 14585	100nF 10% X7R 0805 50V	2430	4822 126 14585	100nF 10% X7R 0805 50V
2306	4822 126 14043	1µF +80-20% Y5V 16V	2431	4822 122 33216	270pF 5%NP0 50V
2307	4822 126 14585	100nF 10% X7R 0805 50V	2432	2020 024 90627	100µF 20% 16V
2308	2222 580 15623	1nF 10% X7R 50V 0805	2433	2020 021 91539	6800µF 16V -> /62E and /62L
2309	2222 580 15623	1nF 10% X7R 50V 0805	2507	5322 122 34098	10nF 10%X7R 63V
2310	4822 126 14585	100nF 10% X7R 0805 50V	2510	4822 124 12082	10µF 20% SM 50V

⊣⊢					
2513	4822 126 14585	100nF 10% X7R 0805 50V	2613	2222 580 15627	2N2 0805 X7R 50V 10% R
2514	4822 126 14585	100nF 10% X7R 0805 50V	2614	5322 122 32268	470P 0805 NP0 63V PM5
2515	2222 580 15623	1nF 10% X7R 50V 0805	2615	5322 122 32531	100pF 5% NP0 50V
2516	4822 126 13486	15pF 2% NP0 63V			
2517	4822 126 13486	15pF 2% NP0 63V	2616	5322 122 32531	100pF 5% NP0 50V
			2617	5322 122 32531	100pF 5% NP0 50V
2519	5322 122 32531	100pF 5%NP0 50V	2618	5322 122 32531	100pF 5% NP0 50V
2520	5322 122 32531	100pF 5%NP0 50V	2619	5322 122 32654	22N 0805 X7R 63V 10% R
2521	5322 122 32531	100pF 5%NP0 50V	2620	5322 122 32531	100pF 5%NP0 50V
2522	5322 122 32531	100pF 5%NP0 50V			
2525	4822 122 33575	220pF 5% NP0 63V	2621	2222 580 15623	1nF 10% X7R 50V 0805
			2800	5322 122 32531	100pF 5%NP0 50V
2600	5322 122 32654	22NF 0805 X7R 63V 10% R	2801	5322 122 32531	100pF 5%NP0 50V
2601	2222 780 15654	220nF 10% X7R 16V 0805	2802	5322 122 32531	100pF 5% NP0 50V
2602	5322 116 80853	560pF 5%NP0 63V	2810	5322 122 32531	100pF 5% NP0 50V
2604	5322 122 34098	10nF10%X7R 63V			
2605	5322 122 32531	100pF 5%NP0 50V	2811	5322 122 32531	100pF 5% NP0 50V
			2812	5322 122 32531	100pF 5% NP0 50V
2606	5322 122 32531	100pF 5%NP0 50V	2813	5322 122 32531	100pF 5% NP0 50V
2607	5322 122 32531	100pF 5%NP0 50V	2814	4822 124 41842	47µF
2608	4822 124 41842	47µF	2815	5322 122 32531	100pF 5% NP0 50V
2609	4822 126 14585	100nF 10% X7R 0805 50V			
2610	4822 124 12082	10µF 20% SM 50V	2816	5322 122 32531	100pF 5% NP0 50V
			2817	5322 122 34098	10nF10% X7R 63V
2611	4822 124 41842	47µF			
2612	4822 126 14585	100nF 10% X7R 0805 50V			
⊣□⊢					
3103	4822 051 20472	4K70 5% 0,1W	3241	4822 051 20008	0R00 JUMP. (0805)
3104	4822 117 10833	10K 1% 0,1W	3300	4822 051 20478	4R70 5% 0,1W
3200	4822 051 20471	470R00 5% 0,1W	3301	4822 051 20478	4R70 5% 0,1W
3201	4822 051 20008	0R00 JUMP. (0805)	3302	4822 117 10833	10K 1% 0,1W
3202	4822 117 10834	47K 1% 0,1W	3303	4822 051 20472	4K70 5% 0,1W
3203	4822 051 20102	1K00 5% 0,1W	3305	4822 116 10062	470R 50% 16V PTC 0805
3204	4822 051 20479	47R00 5% 0,1W	3306	4822 117 10833	10K 1% 0,1W
3205	4822 117 10833	10K 1% 0,1W	3307	4822 051 20478	4R70 5% 0,1W
3206	4822 117 10837	100K 1% 0.1W	3308	4822 051 20478	4R70 5% 0,1W
3207	4822 051 20101	100R00 5% 0,1W	3309	4822 051 20008	0R00 JUMP. (0805)
3208	4822 051 20182	1K80 5% 0,1W	3310	4822 117 10833	10K 1% 0,1W
3209	4822 117 11503	220R 1% 0.1W	3311	4822 117 10837	100K 1% 0.1W
3210	4822 117 11503	220R 1% 0.1W	3312	4822 051 20683	68K00 5% 0,1W
3211	4822 117 11503	220R 1% 0.1W	3313	4822 051 20102	1K00 5% 0,1W
3212	4822 051 20008	0R00 JUMP. (0805)	3314	4822 051 20478	4R70 5% 0,1W
3213	4822 051 20101	100R00 5% 0,1W	3315	4822 051 20478	4R70 5% 0,1W
3214	4822 051 20122	1K20 5% 0,1W	3316	4822 051 20102	1K00 5% 0,1W
3215	4822 051 20273	27K00 5% 0,1W	3317	4822 051 20102	1K00 5% 0,1W
3216	4822 117 10837	100K 1% 0.1W	3318	4822 051 20102	1K00 5% 0,1W
3217	4822 051 20472	4K70 5% 0,1W	3319	4822 051 20102	1K -> 62/F/P/R/T/Z
3218	4822 051 20101	100R00 5% 0,1W	3319	4822 117 11504	270R 5% -> /62E and /62L
3219	4822 117 11149	82K 1% 0,1W	3320	4822 051 20478	4R70 5% 0,1W
3220	4822 051 20008	0R00 JUMP. (0805)	3321	4822 051 20478	4R70 5% 0,1W
3221	4822 117 10837	100K 1% 0.1W	3402	4822 051 20102	1K00 5% 0,1W
3222	4822 051 20101	100R00 5% 0,1W	3403	4822 051 20154	150K00 5% 0,1W
3223	4822 051 20101	100R00 5% 0,1W	3404	4822 117 10833	10K 1% 0,1W
3224	4822 051 20101	100R00 5% 0,1W	3405	4822 117 11148	56K 1% 0,1W
3229	4822 117 11503	220R 1% 0.1W	3406	4822 051 20102	1K00 5% 0,1W
3230	4822 117 11503	220R 1% 0.1W	3407	4822 117 10833	10K 1% 0,1W
3232	4822 117 11503	220R 1% 0.1W	3408	4822 051 20102	1K00 5% 0,1W
3234	4822 051 20008	0R00 JUMP. (0805)	3409	4822 117 10834	47K 1% 0,1W
3235	4822 117 11503	220R 1% 0.1W	3410	4822 117 10834	47K 1% 0,1W
3236	4822 051 20683	68K00 5% 0,1W	3411	4822 117 10834	47K 1% 0,1W
3238	4822 051 20105	1M00 5% 0,1W	3412	4822 117 10834	47K 1% 0,1W
3239	4822 051 20008	0R00 JUMP. (0805)	3413	4822 051 20472	4K70 5% 0,1W

3414	4822 051 20332	3K30 5% 0,1W	3564	4822 117 10834	47K 1% 0,1W
3415	4822 051 20182	1K80 5% 0,1W	3565	4822 117 10834	47K 1% 0,1W
3416	4822 117 10834	47K 1% 0,1W	3566	4822 051 20472	4K70 5% 0,1W
3417	4822 117 10834	47K 1% 0,1W	3567	4822 116 83933	15K 1% 0,1W
3418	4822 117 10833	10K 1% 0,1W	3568	4822 117 10834	47K 1% 0,1W
3419	4822 117 10833	10K 1% 0,1W	3569	4822 116 83933	15K 1% 0,1W
3424	4822 051 20008	0R00 JUMP. (0805)	3570	4822 116 83933	15K 1% 0,1W
3425	4822 051 20332	3K30 5% 0,1W	3571	4822 117 10837	100K 1% 0.1W
3428	4822 051 20182	1K80 5% 0,1W	3572	4822 051 20472	4K70 5% 0,1W
3429	4822 117 10833	10K 1% 0,1W	3600	4822 117 12955	2K7 1% 0,1W 0805
3430	4822 117 11449	2K2 5% 0,1W 0805	3601	4822 051 20472	4K70 5% 0,1W
3431	4822 117 10837	100K 1% 0.1W	3603	4822 117 11507	6K8 1% 0,1W
3432	4822 117 10837	100K 1% 0.1W	3604	4822 117 11449	2K2 5% 0,1W 0805
3433	4822 051 20333	33K00 5% 0,1W	3606	4822 117 10834	47K 1% 0,1W
3434	4822 117 12955	2K7 1% 0,1W 0805	3607	4822 117 10837	100K 1% 0.1W
3435	4822 117 12955	2K7 1% 0,1W 0805	3608	4822 051 20478	4R70 5% 0,1W
3436	4822 117 12955	2K7 1% 0,1W 0805	3609	4822 051 20478	4R70 5% 0,1W
3437	4822 117 12955	2K7 1% 0,1W 0805	3610	4822 051 20478	4R70 5% 0,1W
3438	4822 117 12955	2K7 1% 0,1W 0805	3611	4822 051 20478	4R70 5% 0,1W
3439	4822 117 12955	2K7 1% 0,1W 0805	3612	4822 051 20478	4R70 5% 0,1W
3440	4822 117 12955	2K7 1% 0,1W 0805	3613	4822 051 20478	4R70 5% 0,1W
3441	4822 117 12955	2K7 1% 0,1W 0805	3615	4822 051 20471	470R00 5% 0,1W
3443	4822 051 20472	4K70 5% 0,1W	3616	4822 051 20101	100R00 5% 0,1W
3444	4822 117 10833	10K 1% 0,1W	3617	4822 051 20472	4K70 5% 0,1W
3445	4822 051 20102	1K00 5% 0,1W	3618	4822 051 20101	100R00 5% 0,1W
3446	4822 117 10837	100K 1% 0.1W	3619	4822 051 20332	3K30 5% 0,1W
3500	4822 051 20472	4K70 5% 0,1W	3620	4822 117 11454	820R 1% 0,1W
3501	4822 051 20472	4K70 5% 0,1W	3621	4822 051 20102	1K00 5% 0,1W
3502	4822 051 20102	1K00 5% 0,1W	3622	4822 117 11139	1K5 1% 0,1W
3503	4822 051 20223	22K00 5% 0,1W	3623	4822 051 20101	100R00 5% 0,1W
3504	4822 051 20223	22K00 5% 0,1W	3624	4822 051 20102	1K00 5% 0,1W
3505	4822 051 20223	22K00 5% 0,1W	3625	4822 051 20102	1K00 5% 0,1W
3506	4822 051 20223	22K00 5% 0,1W	3626	4822 051 20184	180K00 5% 0,1W
3507	4822 051 20229	22R00 5% 0,1W	3627	4822 117 10837	100K 1% 0.1W
3508	4822 051 20008	0R00 JUMP. (0805	3628	4822 117 11503	220R 1% 0.1W
3514	4822 117 10834	47K 1% 0,1W	3629	4822 051 20229	22R00 5% 0,1W
3519	4822 051 20008	0R00 JUMP. (0805)	3630	4822 117 11504	270R 1% 0.1W
3521	4822 051 20101	100R00 5% 0,1W	3717	4822 117 10833	10K 1% 0,1W
3522	4822 051 20101	100R00 5% 0,1W	3720	4822 051 20008	0R00 JUMP. (0805)
3523	4822 117 10833	10K 1% 0,1W	3722	4822 051 20008	0R00 JUMP. (0805)
3524	4822 051 20472	4K70 5% 0,1W	3723	4822 117 10837	100K 1% 0.1W
3525	4822 051 20472	4K70 5% 0,1W	3724	4822 051 20008	0R00 JUMP. (0805)
3526	4822 051 20008	0R00 JUMP. (0805)	3725	4822 051 20472	4K70 5% 0,1W
3527	4822 051 20008	0R00 JUMP. (0805)	3727	4822 051 20008	0R00 JUMP. (0805)
3528	4822 051 20008	0R00 JUMP. (0805)	3729	4822 051 20008	0R00 JUMP. (0805)
3549	4822 116 83933	15K 1% 0,1W	3732	4822 051 20008	0R00 JUMP. (0805)
3550	4822 117 11503	220R 1% 0.1W	3801	4822 117 11139	1K5 1% 0,1W
3551	4822 117 13577	330R 1% 0805 1,25W	3809	4822 117 11139	1K5 1% 0,1W
3552	4822 117 10834	47K 1% 0,1W	3810	4822 117 10837	100K 1% 0.1W
3553	4822 051 20008	0R00 JUMP. (0805)	3811	4822 117 11139	1K5 1% 0,1W
3554	4822 051 20008	0R00 JUMP. (0805)	3812	4822 117 11507	6K8 1% 0,1W
3555	4822 116 83933	15K 1% 0,1W	3813	4822 117 10965	18K 1% 0,1W
3556	4822 116 83933	15K 1% 0,1W	3814	4822 117 10837	100K 1% 0.1W
3557	4822 116 83933	15K 1% 0,1W	3815	4822 117 12955	2K7 1% 0,1W 0805
3558	4822 116 83933	15K 1% 0,1W	3816	4822 051 20223	22K00 5% 0,1W
3559	4822 117 13577	330R 1% 0805 1,25W	3817	4822 117 10837	100K 1% 0.1W
3560	4822 117 11503	220R 1% 0.1W	3818	4822 117 10837	100K 1% 0.1W
3561	4822 117 11503	220R 1% 0.1W	3819	4822 117 10837	100K 1% 0.1W
3562	4822 117 13577	330R 1% 0805 1,25W	3822	4822 117 10833	10K 1% 0,1W
3563	4822 117 10833	10K 1% 0,1W	3823	4822 051 20008	0R00 JUMP. (080

5000	4822 157 71206	BLM21A601SPT	5401	4822 157 71206	BLM21A601SPT
5100	4822 157 71314	10UH (NL322522T-100J)	5402	4822 157 71206	BLM21A601SPT
5101	4822 157 71314	10UH (NL322522T-100J)	5500	4822 157 71206	BLM21A601SPT
5102	4822 157 71206	BLM21A601SPT	5600	4822 157 71206	BLM21A601SPT
5202	4822 157 71206	BLM21A601SPT	5601	4822 157 71206	BLM21A601SPT
5203	4822 157 71206	BLM21A601SPT			
5400	4822 157 70935				

6400	4822 130 10488	S3G	6506	4822 130 10185	UDZS5.6B
6401	4822 130 11528	1PS76SB10	6507	4822 130 10185	UDZS5.6B
6402	4822 130 11397	BAS316	6601	4822 130 11397	BAS316
6403	4822 130 11397	BAS316	6602	4822 130 10656	UDZ20B
6404	4822 130 11397	BAS316	6603	4822 130 11564	UDZ3.9B
6500	4822 130 11397	BAS316	6604	4822 130 10656	UDZ20B
6501	4822 130 10185	UDZS5.6B	6605	4822 130 10185	UDZS5.6B
6503	4822 130 11397	BAS316	6606	4822 130 10838	UDZ3.3B
6505	4822 130 11397	BAS316	6800	4822 130 11149	UDZ13B

7201	5322 130 60159	BC846B			
7204	5322 130 60159	BC846B			
7205	5322 130 60159	BC846B			
7206	9352 637 60557	IC SM SAA7708H/N203			
7300	5322 130 60159	BC846B			
7301	9322 129 93667	TDA7385 -> 62/F/P/R/T/Z			
7301	9322 129 80667	TDA7386 -> /62E and /62L			
7400	9352 629 23118	TDA3608TH/N3			
7401	5322 130 60159	BC846B			
7402	5322 130 60159	BC846B			
7403	4822 209 16279	SAA1305T			
7404	5322 130 60159	BC846B			
7405	5322 130 60159	BC846B			
7406	4822 130 60373	BC856B			
7501	3111 117 41220	IC TMP93CW44DF			
7502	5322 130 60159	BC846B			
7600	9322 133 13668	2SB1184-R			
7601	5322 130 60159	BC846B			
7602	5322 130 60159	BC846B			
7603	4822 130 60373	BC856B			
7606	5322 130 62639				
7607	5322 130 60159	BC846B			
7608	5322 130 60159	BC846B			
7609	5322 130 60159	BC846B			
7800	4822 130 60373	BC856B			
7802	5322 130 60159	BC846B			
7804	5322 130 63033	BCP56			
7805	5322 130 60159	BC846B			
7806	4822 130 60373	BC856B			
7807	5322 130 60159	BC846B			